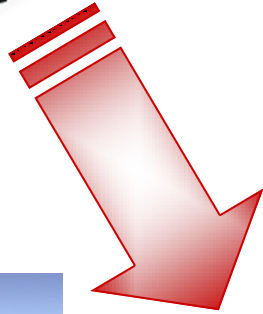
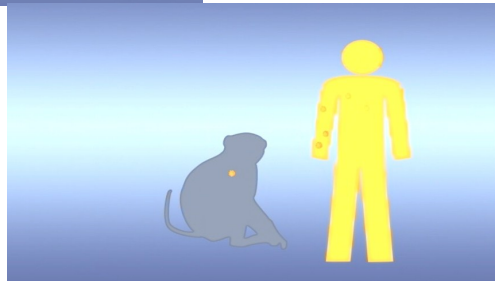
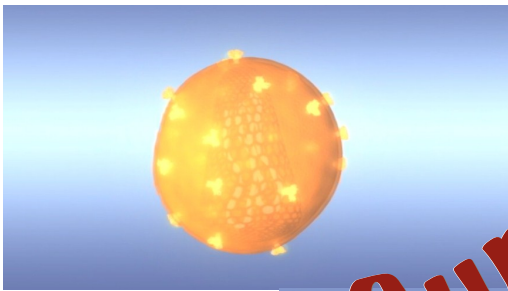


WHY US?
LEFT BEHIND AND DYING



Video Curriculum Modules



Lessons 18:

HIV – Serial Passage Theory

LEARNING WAS NEVER LIKE THIS

Lesson 18: Serial Passage Theory

Standards:

Health:

1.12.2

1.12.3

2.12.2

2.12.10

3.12.1

3.12.2

5.12.2

5.12.4

Science:

1.2

2.1

2.2

2.4

2.5

8.1

8.2

8.3

Skills Practiced and Gained:

1.1—1.7

Overview

Serial passage is a technique used to develop a mutated form of a virus—hopefully a weaker strain of a virus so that it may be used to create a vaccine. Louis Pasteur developed the serial passage technique— infecting an organism with a virus, allowing it to incubate and perhaps mutate, and then another organism is infected with the incubated virus. This infection-incubation process is repeated accordingly. Pasteur used the serial passage technique to produce vaccines for example a rabies vaccine.

The Serial Passage Theory is named after this technique because the theory asserts that SIV mutated to HIV through unintended consequences of a vaccination program that allowed for the infection-incubation process to occur.

Key Concepts

Transfer of viruses

Scientific Method

Procedure

Part I

View the video module for Serial Passage Theory. Use the following questions to facilitate group discussion or give the questions as prompts for journal entries.

Discussion / Journal Questions

- 1) **W**hat new information did you gather from the video module?
- 2) **D**o you think “serial passage” is a possible way in which HIV emerged? What factors of “serial passage” make you think it is possible? What factors of “serial passage” make you think it is not possible?
- 3) **W**hat other questions or comments do you have?



Procedure

Part II

Use the Scientific Method to examine Serial Passage Theory. Either have students/clients discuss their examination of the Serial Passage Theory or assign as a writing exercise.

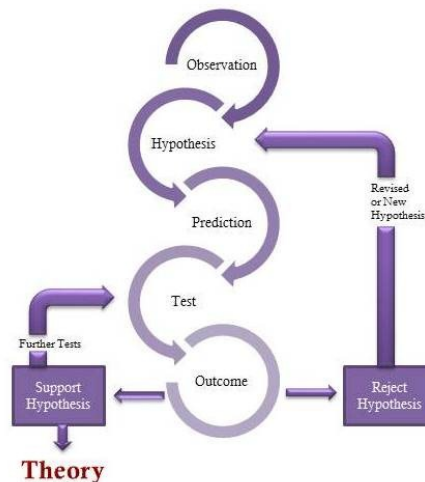
Ask your students/clients:

Do you think “serial passage” is a theory or a hypothesis?

Questions to Consider:

- Do your students/clients think that they have enough information from the video module to answer the question above?
- Have enough successful tests been conducted to establish “serial passage” as a theory?
- Will your students/clients have to research “serial passage” before answering the question?
- Review all parts of the scientific method. How does the information that you have gathered fit into the process steps of the scientific method?

Reminder, the scientific method is:





Reminder, steps in the process of the Scientific Method:

In the Scientific Method,

- ☑ make observations of a phenomenon
- ☑ formulate conjectures about the observations
- ☑ use the conjectures to develop one or more hypotheses to explain the phenomenon
- ☑ make predictions from your hypotheses
- ☑ you should be able to test your hypotheses and predictions
- ☑ conduct an experiment to test your hypotheses and predictions
 - ☑ an experiment can be more observations (perhaps in a different setting); it can be collecting historical data; it can be a traditional laboratory experiment with treatment and control groups
- ☑ review your findings and outcomes; the results should either support or reject the hypothesis
 - ☑ if the hypothesis is supported, then it's theoretical value increases and is further tested
 - ☑ if the hypothesis is rejected, then it is revised or you abandon it and start all over again

When a hypothesis has sufficient support, meaning many successful tests must occur, only then will the hypothesis possibly be accepted as a theory.